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| 09/663,056  | 09/15/2000  | Andrew C. Gallagher  | 80525SHS            | 2954             |
| 1333  | 7590        | 02/22/2005           | EXAMINER            |                  |
| PATENT LEGAL STAFF<br>EASTMAN KODAK COMPANY<br>343 STATE STREET<br>ROCHESTER, NY 14650-2201 |             |                      | ROSARIO, DENNIS     |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2621                |                  |

DATE MAILED: 02/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/663,056

Applicant(s)

GALLAGHER, ANDREW C.

Examiner

Dennis Rosario-Vasquez

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Amt. 28 September 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4,6-10,12-19 and 21-28 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 4,6-10,12-15,19 and 21-24 is/are allowed.  
6) ☒ Claim(s) 1-3,16-18 and 25-28 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 22 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Amendment***

1. The amendment was entered on September 28, 2004. Claims 1-4,6-10,12-19,21-28 are pending.

***Double Patenting***

2. The terminal disclaimer was received on August 21, 2004 and accepted on September 21, 2004.

***Response to Arguments***

3. Applicant's arguments on pages 8 and 9 filed September 28,2004 have been fully considered but they are not persuasive.

The amendment states on page 9, lines 10-13 states, "The clear distinction between the prior art of Sumino and the claimed invention is that Sumino does not teach generating an image transform based on both an original vanishing point location and another more preferable vanishing point location, as claimed in independent claim 1."

However, Sumino does teach generating an image transform (fig. 3, num 211:FINELY ADJUST TRANSLATIONAL, ROTATIONAL AND SCALING TRANSFORMATION is an image transform that transforms a CG in col. 5, line 60. Note that "CG" stands for "computer graphics or an image" in col. 1, lines 8-10. Thus, fig. 3, num. 211 is a transform that transforms images. " Further, the CG having a complex shape is subjected to three-dimensional rotational transformation...(col. 9, lines 4-6)." Thus, a CG having a complex shape "such as an automobile" in col. 1, line 52 corresponds to an image of an automobile that contains a complex shape.) based on both an original vanishing point location (fig. 4B, num. 351 is an initial point.) and another more preferable vanishing point location (fig. 4B, num. 351 is an "improve[d]" point based on the initial point 351 in col. 6, line 67 to col. 7, line 2.).

4. Applicant's arguments filed September 28, 2004 have been fully considered but they are not persuasive.

The amendment states on page 9, lines 26,27, " Claim 1 is novel because there is no teaching of step (c) as claimed by the Applicant in the cited art, therefore the claimed feature is missing."

However, Sumino does teach step (c) as discussed above.

5. Applicant's arguments filed September 28, 2004 have been fully considered but they are not persuasive.

The amendment states on page 9, lines 21,22 states, "Therefore, Sumino's transformation is not applied to an image; rather, the transform is applied to a 3D CG object."

However, Sumino discloses that "CG" stands for "computer graphics or an image" in col. 1, lines 8-10. Thus, fig. 3, num. 211 is a transform that transforms images.)

### ***Claim Objections***

6. The following quotations of 37 CFR § 1.75(a) is the basis of objection:

(a) The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

7. Claims 1 and 25 are objected to under 37 CFR § 1.75(a) as failing to particularly point out and distinctly claim the subject matter which the applicant regards as his invention or discovery.

8. Claim 1, lines 5 and 6 has the phrase "vanishing point location" which ought to be amended to "vanishing point". The phrase "vanishing point location" has no antecedent basis.

9. Claim 25, line 6: "for removing effect" ought to be amended to "for removing an effect".

### ***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claim 1-3,16-18 and 25-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Sumino et al (U.S. Patent 5,325,470).

With regard to claims 1-3, Sumino et al. discloses a method of a system (fig. 2) generating an image transform for modifying a digital image (Sumino et al. states, "...the operator can easily synthesize a real image and a CG having a complex shape simply by performing the operation of translational, rotational or scaling transformation (col. 5, lines 28-31)."), comprising:

- a) detecting a vanishing point (fig. 4B, num. 351) related to the selected image (fig. 4B, num. 300) (Sumino et al. uses vanishing points to determine a plane's normal vector (col. 3, lines 12-16).),
- b) determining a preferable vanishing point (fig. 4B, num. 351) location (Using figure 4B, Sumino et al. states, " . . .the intersection between straight lines L0340 and L2342 is given as qb1351...the intersection qb1351 may be determined also by the straight lines L0340 and L4344 to improve the coordinate accuracy of the intersection qb1351 (col. 6, lines 60-62,67,68 and col. 7, lines 1,2) [Therefore, the coordinates of detected vanishing point (fig. 4B, num. 351) of step b) is improved by using more straight lines to determine a new vanishing point or preferable vanishing point which results in an improved coordinate accurately]."; and

c) generating an image transform (fig. 3, num 211:FINELY ADJUST TRANSLATIONAL, ROTATIONAL AND SCALING TRANSFORMATION is an image transform that transforms a CG in col. 5, line 60. Note that "CG" stands for "computer graphics or an image" in col. 1, lines 8-10. Thus, fig. 3, num. 211 is a transform that transforms images.) based on the vanishing point [location] (fig. 4B, num. 351) and the preferable vanishing point location (fig. 4B, num. 351; Sumino et al. states," a three-dimensional rotational transformation of the CG having a complex shape are calculated from each normal vector, [and each normal vector was derived or based from the points qb1351 and qb2352])(col.5, lines 59-61 and col. 7, lines 2-12)."

Claim 2 is rejected the same as claim 1. Thus, argument similar to that presented above for claim 1 is equally applicable to claim 2.

Regarding claim 3, Sumino et al. discloses the method claimed in claim 2, further comprising the step of generating the image transform (fig. 3, num 211:FINELY ADJUST TRANSLATIONAL, ROTATIONAL AND SCALING TRANSFORMATION is an image transform.) in such a manner that a detected vanishing point (Fig. 1 is an image or "CG rectangular parallelepiped 2...having a complex shape..." in col. 1, lines 49-53 that contains a plane in col. 5, lines 54-58 which has a vanishing point qb1351; Fig. 4B shows the plane of the CG rectangular parallelepiped labeled as "NI" that has a vanishing point qb1351.) of the transformed image (Output of fig. 3, num 211:FINELY ADJUST TRANSLATIONAL, ROTATIONAL AND SCALING TRANSFORMATION is a transformed image with the detected vanishing point 351 of fig. 4B.) is coincident (The transform is used "so that the positions [Fig. 4B shows a position point qb1351.] of a real image [or the image shown in fig. 1,num. 3] and a CG [Fig. 1,num. 2 is the CG] having a complex shape [The complex shape is shown in fig. 2,num. 1 that shows a car.] coincide with each other (Sumino et al., col. 9, lines 4-9).") with the preferable vanishing point location (A "real image of a rectangular parallelepiped" in col. 1, lines 46,47 shown in fig. 1,num. 3 contains a plane in col. 5, line 46 with preferable the vanishing point location of fig. 4B, label:qb1351.). In other words, the images of fig. 1, numerals 2 and 3 have respective points as shown in figure 4B that are made to coincide with each other.

With regard to claims 16-18, Sumino et al. discloses a computer readable medium having computer executable instructions at column 4, lines 45-47: "a magnetic disk 110 (fig. 2) for storing a processing program".



Regarding claim 25, Sumino et al. discloses a method of generating an image transform for modifying a digital image, comprising:

- a) detecting a vanishing point (Fig. 3, num. 204: CALCULATE NORMAL VECTOR OF EACH PLANE as shown in fig. 4B where a vanishing point qb1351 is detected via lines L0,L2 and L4.) related to the digital image (Fig. 1,num. 3 is a "real image of a rectangular parallelepiped 3...(Sumino et al., col. 1, lines 46,47)." And the digital image is also shown in fig. 3,num. 202:SELECT AND DISPLAY REAL IMAGE.);
- b) determining from the detected vanishing point (The vanishing point qb1351 is detected via lines L0,L2 and L4) an amount of camera rotation (Fig. 3, num. 205: CALCULATE AND DISPLAY PARAMETER FOR THREE-DIMENSIONAL ROTATIONAL TRANSFORMATION determines "rotational angles" in col. 5, lines 58-60.) relative (The rotational angles are determined using information from the real image's "normal vector...determined above" in col. 5, lines 58-62. Note that "determined above" is referring to the real image in col. 5, lines 45-52.) to a scene at image capture time (The real image corresponds to a photographed image in col. 1, lines 53,54.);

c) generating an image transform (Fig. 3,num. 210: RESULTS OF SYNTHESIS OK INPUT ? generates, via a “NO” branch, a transform of fig. 3,num. 211: FINELY ADJUST TRANSLATIONAL, ROTATIONAL AND SCALING TRANSFORMATION.) for removing an effect ( A “displacement [is adjusted]...on the basis of the parameters (col. 6, lines 11-15).” Note that “parameters” is referring to the determined “rotational angles” in col. 5, line 58 which are based on the real image as discussed above in step b. Thus, a rotational displacement of the real image is adjusted causing an effect of camera rotation to be removed or adjusted.) of the camera rotation (Fig. 3, num. 205: CALCULATE AND DISPLAY PARAMETER FOR THREE-DIMENSIONAL ROTATIONAL TRANSFORMATION calculates “rotational angles” in col. 5, lines 58-60.) from the digital image (fig. 3,num. 202:SELECT AND DISPLAY REAL IMAGE); and

d) applying the image transform (fig. 3,num. 211: FINELY ADJUST TRANSLATIONAL, ROTATIONAL AND SCALING TRANSFORMATION is applied on the real image of fig. 3,num. 208: SYNTHESIZE REAL AND CG IMAGES.) to the digital image (fig. 3,num. 202:SELECT AND DISPLAY REAL IMAGE).

Regarding claim 26, Sumino et al. discloses the method claimed in claim 25, wherein the detected vanishing point (Fig. 3, num. 204: CALCULATE NORMAL VECTOR OF EACH PLANE as shown in fig. 4B where a vanishing point qb1351 is detected via lines L0,L2 and L4.) is associated with vertical scene lines (Fig. 4A,num. 300 is a scene of an object 300 where a vertical line between numerals 311 and 315 of the scene 300 is associated with a vanishing point qb1351 of the same scene 300 of fig. 4B via lines L0,L2 and L3.).

Claims 27 and 28 are rejected the same as claim 16-18. Thus, argument similar to that presented above for claim 16-18 is equally applicable to claims 27 and 28.

***Allowable Subject Matter***

12. Claims 4 and 10 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The reasons for allowance for claims 4 and 10 were discussed in a previous office action, dated July 25, 2003, with respect to claim 5, now canceled.

13. Claims 6-9,12-15,19 and 21-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Rosario whose telephone number is 703-305-5431. The examiner can normally be reached on 6-3.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 703-308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2621

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DRW

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